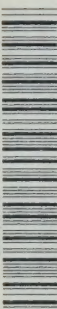


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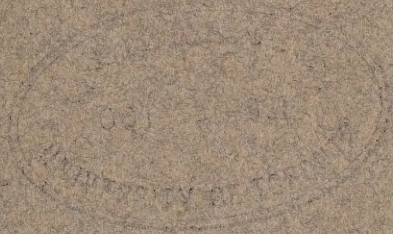


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Amelia - Conservation Commission

The Conservation of the Water-Powers of Ontario


AN ADDRESS DELIVERED BY THE HONOURABLE
ADAM BECK BEFORE THE FIRST ANNUAL
MEETING OF THE COMMISSION OF CONSERVATION



Reprinted from the First Annual Report of
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THE CONSERVATION OF THE WATER-POWERS OF ONTARIO

I count it an honour and a privilege to address the Commission for the Conservation of Natural Resources. I do not think I will err in ascribing your generous invitation to the fact that I have been associated in my own Province, the province of Ontario, with the effort which has been in progress there for some years back to conserve, as far as possible, but with due regard to its vested interests, the valuable water-powers of that Province.

The object lesson which the policy of the Government of the province of Ontario has furnished in the conservation of natural resources has attracted considerable attention throughout the world, and it is, perhaps, fitting that, at the beginning of the career of the National Commission, whose duties are of the highest and most responsible character, I should endeavour to set forth, in some brief but orderly fashion, the basis and progress of a similar movement, on a smaller scale, in my own Province.

I will ask you, therefore, to accompany me in thought while I sketch, as briefly and clearly as the character of my subject permits,

- (1) The antecedents and origin of the Hydro-Electric Power Commission over which I have the honour to preside;
- (2) The scope of the legislation creating the Commission;
- (3) The scope, progress and value of the undertaking with which the Commission is charged;
- (4) The effect upon vested interests of the work of the Commission; and
- (5) The probable future of the Commission.

I.—Antecedents and Origin of Power Commission—The Hydro-Electric Power Commission of Ontario was born of a wide-spread public demand that steps should be taken by the Province to preserve and develop the people's rights in the provincial water-powers, and to protect them from the baneful effects of monopoly prices. The harnessing of Niagara Falls had been the dream of engineers for a long time. Like other dreams of the leaders of thought and

progress among the people, on questions of national import, it interested the public by slow degrees. The various efforts that were made from time to time to form companies for the generation of electric power at the Falls stimulated interest, and when, at last, the manufacture of electrical transmission apparatus had sufficiently advanced to permit of the commencement of large hydro-electric installations, the economic possibilities of the Falls took a stronger hold upon the public mind. The value of cheap electric power to a province dependent upon the coal-fields of Pennsylvania and its trusts was, and is, sufficiently obvious.

One of the first definite expressions of public interest in the question occurred in the spring of 1900, when the Toronto Board of Trade appointed a committee to investigate and report upon the power question. The committee, which was presided over by the late Mr. W. E. H. Massey, reported that the manufacturers' hope for cheap power in the south-western portion of the Province depended for realization upon the utilization of the resources of Niagara falls. The report of this committee was followed by increasing public interest, and, in the early part of 1902, voluntary meetings were held in many cities of the Province, which, together with the support of the Canadian Manufacturers' Association and of numerous Boards of Trade, served to rivet public attention on the matter.

A meeting of manufacturers was held at Berlin in June, 1902, at which representatives from Toronto, Galt, Guelph, London and a number of other centres were present, the object being that of discussing and furthering the best method of securing electric power for manufacturing and other purposes from Niagara falls. Early in 1903, the city of Toronto made application to the Legislature for authority to generate and transmit Niagara Falls power for the users of the city. The application, however, was refused.

To pass rapidly over intervening events, it is sufficient to say that, as a result of the decisions of, and action initiated by, the aforementioned and subsequent meetings of manufacturers and municipal representatives, an Act was passed by the Ontario Legislature the following year (1903) which authorized Ontario municipalities to appoint a Commission to inquire into the desirability of securing the establishment and operation of municipal light, heat and power works and to establish the same. Immediately after the passage of the Act in question the municipalities of Toronto, London, Brantford, Stratford, Woodstock, Ingersoll and Guelph exercised their powers and appointed a Commission to inquire into the best method of developing power for their needs and to estimate the cost thereof. The Commission was composed of

Mr. E. W. B. Snyder, of St. Jacobs, Mr. P. W. Ellis, of Toronto, Mr. W. F. Cockshutt, of Brantford, Mr. R. A. Fessenden, a Canadian electrical engineer then residing in Washington, D.C., and myself. Mr. Snyder was appointed Chairman of the Commission, and Messrs. Ross and Holgate, of Montreal, the well-known and highly capable firm of electrical and hydraulic engineers, were appointed by the Commission to investigate and report upon the engineering aspects of the whole matter. Incidentally, it may be observed that the Commissioners served from a sense of public duty, neither seeking nor accepting any remuneration for their services.

The report of this Commission was issued on the 28th of March, 1906, and, by general consent, it set forth, for the first time, an authoritative and exhaustive exposition of the whole question of the commercial value to the province of Ontario of its great natural water-powers, when utilized for the generation and transmission of electric power. It contained, among other things, a reliable estimate of the power consumption of the district embraced, the cost thereof when produced from coal and steam, the capital and operating costs of a large generating plant at Niagara Falls combined with the necessary transmission lines throughout the district in question, and the enormous financial savings and economic stimulus that would result from the carrying out of such a plan of generation and transmission as was therein recommended.

It became evident during the later stages of the work of this Commission, and also in the discussions which followed the publication and distribution of the report among the municipalities, that certain serious difficulties of procedure were inherent in any plan which depended for its final accomplishment upon purely municipal initiative. The Government of the, then, Hon. Mr. Whitney, which, in the meantime, had been formed, recognizing these difficulties, appointed, partly in obedience to the public opinion of the time, and partly from a spontaneous recognition of the importance of the water-power question, a new Commission to make still further inquiries. This Commission was composed of Mr. Geo. Pattinson, M.P.P., of Preston, Mr. P. W. Ellis, of Toronto, and myself. Subsequently Mr. Ellis retired because of ill-health, and Mr. John Milne, of Hamilton, took his place.

Further investigations were made into the location and value of the provincial water-powers by this Commission, the effect of which was to add greatly to the general fund of reliable information on the subject. As a final result of all the inquiries, reports, discussions and public agitation, the Hydro-Electric Power Commission of Ontario was, in obedience to, and with the full force and sanction of, an overwhelming body of public opinion, formally created by statute on the 14th

of May, 1906, its powers, however, being revised and amplified by a subsequent Act passed on the 20th of April, 1907. This Commission was originally composed of the Hon. J. S. Hendrie, of Hamilton, Mr. C. B. Smith and myself. Subsequently Mr. Smith resigned, and Mr. W. K. McNaught, of Toronto, was appointed in his place. To the Commission thus constituted, with Mr. P. W. Sothman as chief engineer, has been confided the task of carrying out the great scheme which I shall presently describe more fully.

It will be observed from this brief and rapid outline sketch that the Hydro-Electric Power Commission—whether it be, as is so often represented, on the one hand a priest and prophet of evil, or, on the other hand, as less frequently represented, but perhaps more deeply felt, a great and potent agency for the public good—does not represent a policy which is the sole and exclusive creation of any single man or Government, but rather a policy which embodies the judgment of an intelligently instructed public opinion, the cumulative force of which made itself felt through all the organs of the public voice upon the general mass of men without distinction of party.

I ought, however, before leaving this branch of my subject, to note that the great potentialities of Niagara falls as a power reservoir had, at an earlier stage, fastened themselves upon the imagination of the Government of the Hon. G. W. Ross, which endeavoured by a system of regulation, to do something for the public welfare in regard thereto. The legislation of that Government, however, proved inadequate. It was intended, among other things, as between the companies then in existence, to protect the public interest by prohibiting amalgamations, pooling and the carrying out of arrangements to maintain or increase prices. Not only were the Government proposals incapable, by their very nature, of effective application, but they failed to make provision for the prevention of a system of subdivision of territory between the companies, which, whether ordered by nature or effected by arrangement between them, made the Electrical Development Co. and the Hamilton Cataract Power Co. the master monopolists of electric power in the Niagara peninsula.

I do not wish to be understood as endeavouring by these remarks to make any political capital out of this matter. Nothing is further from my thoughts. No government can safely and effectively prevent amalgamation taking place under some one or other of the variety of forms in which it may be incorporated, nor effectively prevent the making of arrangements designed to maintain certain price-levels when the parties thereto are few in number. There is no satisfactory and

infallible method of proving "parole" or "gentlemen's" agreements, and therefore there is no satisfactory method of preventing or penalizing them.

II.—Powers of the Commission—The powers conferred by legislative authority upon the Commission may be broadly described as follows:—

It is duly authorized to investigate and report to the Lieutenant-Governor-in-Council upon any and all hydraulic, hydro-electric and other power undertakings, whether developed or undeveloped, throughout the Province; to inquire and report upon the Ontario branches of power undertakings originating outside, but bringing power within, the boundaries of the Province; to inquire and report upon the power and lighting needs of the Province in all its parts, and, upon the authority of the Lieutenant-Governor-in-Council, to purchase, lease, expropriate or otherwise acquire lands, water-powers and water privileges; to purchase, lease, expropriate, construct or otherwise acquire generating, transmitting and distributing plants and works and to operate the same; to expropriate the power product of, or to contract with, any person, firm or corporation for a supply thereof; and to enter into all necessary arrangements with Ontario municipalities or other corporations, including railway and distributing companies, for the fullest exercise of these powers, with the object of providing adequately for the supply of the power and lighting needs of the Province at the lowest possible cost. Authority is also given to the Commission to control the rates charged by municipalities upon the sale of power purchased from it, with the object of preventing excessive charges to the public or the veiled bonusing of favoured undertakings, and to the Lieutenant-Governor-in-Council to borrow on the credit of the Province all moneys required to carry on the various objects of the Commission.

It became necessary, however, during the legislative sessions of 1908 and 1909, to procure some auxiliary powers in order the better to proceed with the undertaking; and to secure the ratification of certain contracts, including some municipal contracts in regard to which systematic efforts were being made to prevent their completion, and to block and jeopardize thereby the whole undertaking.

These powers, thus briefly summarized, are wide and important, and cast upon the Commission a high degree of responsibility. Properly used, they will greatly develop the latent wealth of the Province and distribute its benefits among the mass of the people. The legis-

lation has provoked much antagonism, and, in certain quarters, it has been strongly and persistently criticized as an improper exercise of legislative authority.

It has been contended that, in certain parts, it is *ultra vires* of the Legislature of Ontario; that, even though *intra vires*, it is, as a whole, indefensible from the standpoint of public morality, which calls for adequate protection of vested interests and sanctity of private contracts, and that, in any event, governments and their creature commissions are inherently incapable of operating business undertakings in a business-like way, and, therefore, from the economic point of view, it is unsound and involves the penalizing of the public in the very service it was designed to promote.

I am not concerned here to argue the constitutional question. That may be left to lawyers. It is improbable that the profession will become extinct or that the law courts will be closed in the immediate future through unanimity of legal judgment on this or any other constitutional question. Suffice it to say that we are advised the legislation is well within the rights of the Province, and, on that view, we are disposed to maintain it.

I would like, however, to consider shortly the moral aspect of the question. The essence of this criticism, which has been chiefly provoked by the building of a transmission line in the southwestern portion of the Province, touches two main points, viz., the right of the Government to employ public moneys in constructing and operating undertakings which may compete with those established by private enterprise, and the right of the Government to stay actions and to validate contracts. Now, on these questions, I would, first of all, point out that the Government of Ontario in authorizing the Commission to construct these electrical transmission lines, has, in reality, appointed the Commission an agent for certain municipal corporations, at their own request. The undertaking, which is in course of construction, is, for reasons of economy and expedition, being built, and will, on completion, be operated by the Commission on behalf of certain municipal corporations who will also pay for it. The Government is practically making a secured loan to the municipalities for the amount of the cost of the undertaking, which, with interest, is to be repaid by the municipalities, by annual instalments, within thirty years. Meantime, of course, the operating expenses are in the form of rentals, likewise payable by the municipalities. Neither the Commission nor the Government, as such, makes or accumulates one cent of profit or revenue out of the undertaking. It is wholly and only conducted for the benefit of the municipalities. I make this point clear in the interest of clear thinking. It

is a municipal enterprise conducted by the Commission at the request of, and as the appointed agent of, the municipalities, and at their cost and risk. It is not a direct Government undertaking organized and conducted on behalf of, or for the benefit of, the Government. In the second place, I would observe that, so far as my knowledge goes, the contention that governments are barred from employing public moneys for the furtherance of undertakings that may conceivably compete with those of private enterprise, has no such sacred sanction as its exponents pretend. I do not understand that any revelation has ever been made from Heaven to the effect that a democratic government commits the unpardonable sin when it assists in the establishment of great and necessary public works for the well-being of the people, of whose interests it is the trustee.

I am not aware that the people of the Dominion of Canada violated any moral law in building the Intercolonial railway, or that the people or Government of the province of Ontario did so in building the Timiskaming railway. It is true that the history of the Intercolonial railway has not been a continuous history of increasing surpluses. I have heard it said that there has sometimes been a deficit, and of course it may be contended that the deficit itself is an evidence of such violation. I do not think, however, that such reasoning will stand in any atmosphere except that of a political election. The best of men, as well as the best of projects, often meet loss in this world. The fact of the matter is, that theories of private property and of the limits of State interference are as plentiful as the generations and as varied as the schools of men, and it is grotesque that a single class of people should select that particular theory best suited to their exclusive interests, clothe it with the sanctity of a religious system, set it up for worship among men, and then proceed to ostracize a government which ventures to give a prior place to the authority of reason and the principles of justice in the shaping of measures for the well-being of the people at large. The collective holding and the nationalization of certain forms of property rest upon a moral basis quite as secure as that of private ownership of property. No man in his senses believes that it is wrong to prevent the people being injured by monopolies, or to develop public resources with public money for the public good. As a matter of fact, however, the Commission does not compete with private companies in the generation of power, and, while it is true that the transmission lines of the Electrical Development Company are being duplicated between Niagara Falls and Toronto, that Company has long term contracts with the Toronto Electric Light Company and the Toronto Railway Company, its sole Toronto customers for power, and these contracts are

not being disturbed in the least degree. In no other part of the Province is there any transmission line worthy of the name, owned by private enterprise, with which the Hydro-Electric Commission will compete. There has, therefore, been no interference with existing contracts. It has been said that the project violates a covenant given by a prior government. The reply is simple—it does not, for no such covenant has ever been given.

The Commission has contracted to purchase the power it requires at reasonable rates either at the generating stations or at the termini of the transmission lines of certain existing private companies, and it is thereby taking the position of a customer and supporter of such companies rather than that of a competitor and assailant.

In the third place, I would observe that the special legislation to stay certain actions which were intended to block the expressed will of the people and to validate certain contracts were, notwithstanding assertions to the contrary, normal exercises of the legislative power. If it is competent to the Provincial Legislature to prescribe the procedure by which municipal councils may ascertain and give effect to the wishes of the people, it is equally competent to the Legislature to vary the procedure when it is being employed by unexpected methods to block the wishes of the people, and, in this case, it was done at the request of the municipalities concerned. If you will take the trouble to read the masterly report prepared by the Hon. Mr. Foy, Attorney-General of the Province, upon the actions stayed and the contracts validated, and which has recently been transmitted to the Federal Government, I think you will agree with me that this particular complaint rests upon a very insecure foundation.

I pass now to the consideration of the next ground of complaint, viz., that governments and their creature commissions are inherently incapable of efficiently conducting business undertakings, and that, in consequence thereof, the public will be penalized instead of benefited by the effect of the legislation in question. If this is the general rule of government experience, then in the province of Ontario we must have an exceptionally capable Government, because we do not admit for one moment that we have had any such experience, or that there is the slightest foundation for these charges of the prophets of evil. As a matter of fact, however, broad generalizations on questions of this sort are of no value. It is absurd to contend that effective and economic corporate action cannot be procured among men. The highest degree of administrative skill is found among corporations. Government action and Hydro-Electric Power Commission action are forms of corporate action. It has not been decreed that one form of corporate action shall exhibit

all the virtues and powers and another form all the vices and imbecilities of men. The quality of corporate action depends on the character and calibre of the men and not upon the type or purpose of the corporation. History sustains the theory of effective government management quite as strongly as it sustains the theory of ineffective government management.

As a matter of fact, under our modern democratic system, which ensures the constant employment in the service of the State of a large part of the best brains of the country, it is ridiculous to assert that such brains are barred by the mere atmosphere of the service of the State from that efficiency of conduct which would characterize them in the atmosphere of private life.

In this particular project, however, it is to be noted that the enterprise is of the highest technical type, both by reason of the nature of hydraulic and electric problems and by reason of the scale upon which the Hydro-Electric Power Commission is dealing with them. The scheme of transmission is the largest in the world, and electric power will be transmitted at the highest voltage known to the art, viz., 110,000 volts. I do not think that there is any other power transmission undertaking in operation in the world to-day at 110,000 volts. It is, however, possible that by the time this project is completed, there will be one other 110,000 volt transmission plant in existence. Whether or not, however, I am strictly correct on this point, it is clear that the operation and installation of the undertaking calls for the employment of engineering talent of the highest order, and of the most highly specialized type. An executive staff of the necessary high and rare capacity may be relied upon to work on a corresponding level of efficiency, whether in the employment of the State or in the employment of the private individual.

To sum up: the objections that have been taken to the legislation in question, and which are dignified with the high sounding names of "constitutional," "moral," and "economic" objections, are all, according to my humble way of thinking, explicable on a very simple principle. It seems to be a universal characteristic of human nature that where 5% is being made, 6% should be striven for, and when 6% is earned, 7% should be aimed at, and so on in an increasing, but never diminishing, ratio. Under the influence of this principle of human action, it is natural for those interested in any department of commercial activity to object to anything and everything that would curtail, or threaten to curtail, their immediate or prospective returns, and all these

high-sounding objections, or nearly all of them, could probably, if one had the time or the inclination, be traced to the motive of self-interest in the class or classes affected.

III.—The Scope, Progress and Value of the Undertaking—The field for the activities of the Commission comprises the whole of the province of Ontario. It is, however, proceeding with its enormous and responsible task in a rational way. It was the public recognition of the great needs of the manufacturing districts of western Ontario and the vast untapped reservoir of Niagara falls that led, as has already been explained, to the creation of the Commission, and it was, therefore, natural and proper that to this particular part of the field the attention of the Commission should first be directed.

Before sketching the physical project which is in process in the district named, I should, however, mention that contracts have been made for the purchase of power from existing companies at Ottawa and at Port Arthur, and for the sale thereof to the municipalities of Ottawa and of Port Arthur. These have been productive of great satisfaction in these municipalities.

In the city of Ottawa, for years prior to 1901, the following rates were charged by the Ottawa Electric Company:—

House lighting, 15 cents net, per kilowatt hour;
Street lighting, \$65.00 per arc lamp per annum;
Motive power, \$40.00 and upwards, per H.P. per annum.

During this time, I am informed, the Company paid no dividends. In addition to settling an acute triangular struggle within the city of Ottawa, the particulars of which it is not necessary to repeat to this audience, the Commission contracted, in July, 1907, for the purchase of power from the Ottawa and Hull Power and Manufacturing Company, whose generating works are in the province of Quebec, for a period of ten years at the price of \$15.00 per H.P. per annum, and for the sale thereof, on the same terms, to the city of Ottawa.

Prior to this, the city's right to purchase current direct from a power company had been successfully assailed in the courts, and it was, therefore, left with a distributing plant on its hands but without any source of supplies. As a result of the mediation of the Commission, the city has, since 1907, been enabled to procure an abundant supply of power at a price which, in turn, has permitted the continuance of a schedule of prices as follows:—

House lighting: $7\frac{1}{2}$ cents net per kilowatt hour, or a reduction of 50% on the prices of 1901.

Street lighting: \$45.00 per arc lamp per annum, or a reduction of 31% upon the prices of 1901.

Motive power: \$25.00 per H.P., per annum, or a reduction of 37½% from the prices of 1901.

The reduction in prices has so stimulated consumption that, together with the increased demand which has accompanied the growth of the city, the business both of the city and the Ottawa Electric Company has greatly increased, the Company now paying 5% dividends on its outstanding capital stock of \$1,000,000, and having, in the year ended 31st December, 1908, added an ample surplus to its reserve account. The gross revenue of the city electric plant for 1908, was over \$106,000, with a net profit of over \$17,000 after paying interest and making provision for an adequate sinking fund to retire the capital invested.

In the city of Port Arthur a most unsatisfactory state of affairs between the municipality and the Kaministiquia Power Company has been terminated by similar mediation on the part of the Commission. As a result thereof the Commission has contracted to take its supply of power from the Kaministiquia Power Company and to sell the same to the city of Port Arthur on terms which are eminently satisfactory to both the vending power company and the purchasing municipality.

It may also be worth while describing a very interesting situation which developed in Hamilton, and the result thereof. The Commission did not, at the outset, expect to render much service to the people of Hamilton, by reason of the Hamilton Cataract Company's control of the De Cew Falls power, which is situated quite close to the city, and which is the cheapest development in the Province, its original source being the Welland canal. To take other power into Hamilton was like taking coals to Newcastle. It was found, however, upon investigation, that prices in Hamilton for power and lighting services were higher than in Toronto, where the power was generated from steam plants. The scale was as follows:—

SERVICE	HAMILTON	TORONTO
House lighting	10 cents k.w.	8 cents k.w.
Commercial lighting	15 cents k.w.	12 cents k.w.
Arc lamps	\$84.00 per annum	\$69.35 per annum

Upon the expiry of the city lighting contract, tenders were called for and submitted on the basis of \$80.00 per arc light per annum, with a ten-year franchise, or \$85.00 with a five-year franchise. The City Council then asked the Commission to submit prices, whereupon it estimated the cost of arc lamps as \$43.00 per annum. The Company

then came down to a \$47.00 rate, and got the contract for five years. Subsequently the city called for prices on power for water-works and sewage disposal, and tenders were submitted by the Cataract Company at \$45.00 per H.P. per annum, while the Commission estimated the service as being worth \$17.50 per H.P. per annum.

The Cataract Company then offered to supply the city at rates 10% less than those charged by the Commission to any municipality. Both offers were submitted to the ratepayers, and, as a result, a contract with the Commission was duly authorized and executed.

It is worth while noting at this juncture that the advent of the Hydro-Electric Power Commission to the electric power councils of the cities of Hamilton, Ottawa and Port Arthur has not been productive of that destruction of private interests that has been so freely and recklessly predicted. On the contrary, in these municipalities the offices of the Commission have resulted in strengthening, but on a sound and healthy basis, the position of the private power companies, while securing material benefits to the public consumers of light and power.

Coming now to the Niagara peninsula and western Ontario, I will proceed to outline, as rapidly as possible, the main features of the project. The Commission has entered into a contract with the Ontario Power Company to purchase not less than 8,000 H.P., and as much more as it requires, up to 100,000 H.P., for a term of ten years, with provision for three extensions for additional periods of ten years each, at the price of \$9.40 per H.P. per annum up to 25,000 H.P., and \$9.00 per H.P. per annum if the quantity taken exceeds 25,000 H.P. The power is to be delivered by the Ontario Power Company to the Commission at Niagara Falls at 12,000 volts, and the prices cover a twenty-four hour continuous service.

The physical project begins with a transformer station at Niagara Falls to take the power on delivery at 12,000 volts. Thence a 60,000 H.P. double transmission line operating at 110,000 volts conveys the current to a controlling station at Dundas, whence the line is continued east to the city of Toronto without—in the meantime—any intermediate station. From the controlling station at Dundas a double line of the same capacity and voltage is continued *via* Woodstock and London to St. Thomas, with local transformer stations at these points. From the same central controlling station at Dundas a similar line proceeds north and west *via* Guelph, Preston, Berlin, Stratford, St. Marys and on to London, with local transformer stations at each of these points, the whole high-voltage line thus described comprising about 300 miles. At each of these local transformer stations the volt-

The Commission of Conservation

Canada

HYDRO-ELECTRIC POWER COMMISSION, ONTARIO

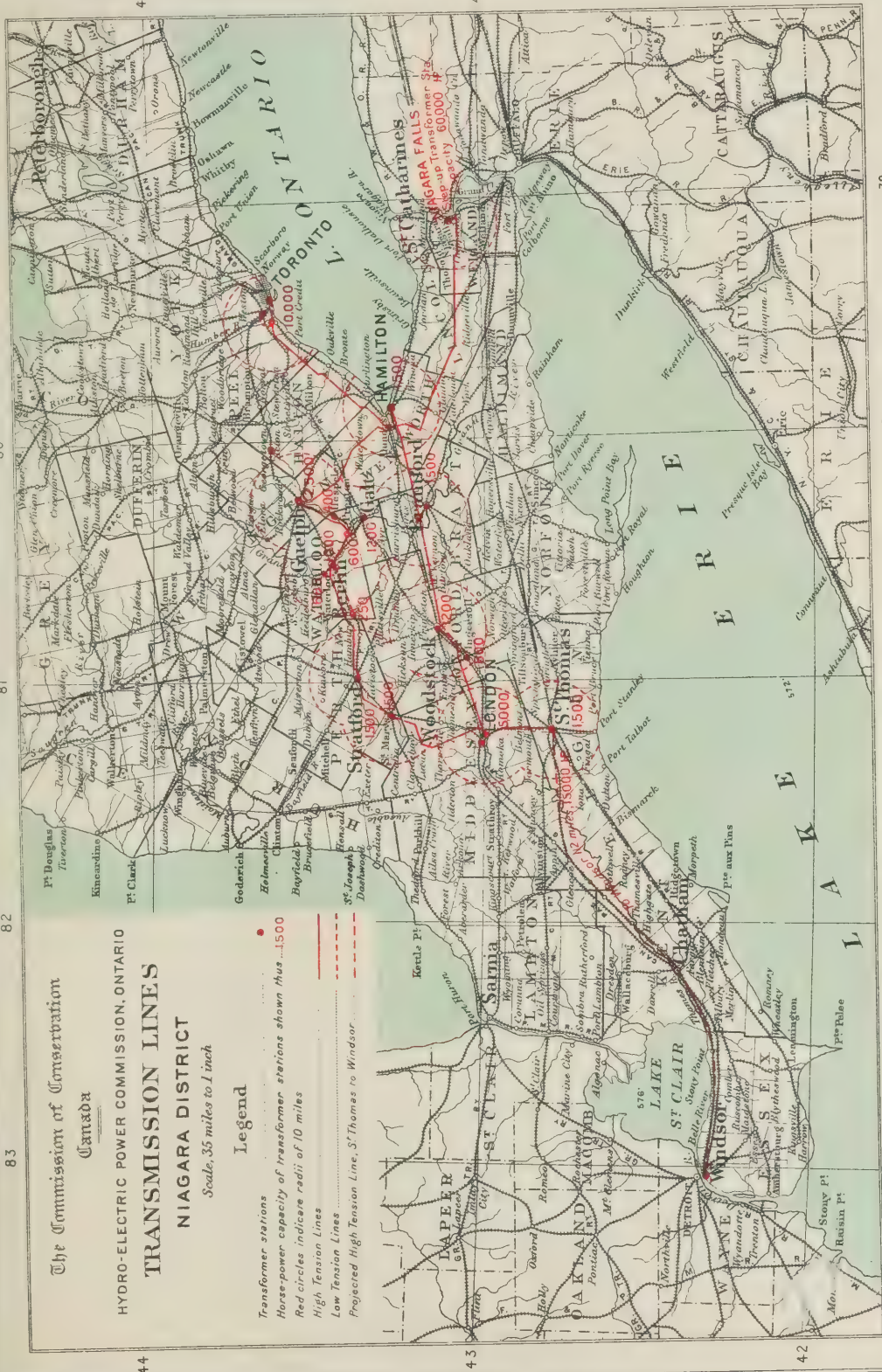
TRANSMISSION LINES

NIAGARA DISTRICT

Scale, 35 miles to 1 inch

Legend

- Transformer stations
- Red circles indicate radii of 10 miles
- High Tension Lines
- Low Tension Lines
- Projected High Tension Line, St. Thomas to Windsor



age is reduced to 13,000 for the purpose of supplying, by additional local feeder lines, the different municipalities in the vicinity thereof. The effect of this method of distribution is to make it possible from the high-voltage circuit above described, in combination with the low-voltage local distributing lines, to supply the needs of practically every municipality within the district at the four corners of which are Toronto, Niagara Falls, St. Thomas and Stratford.

The ultimate termini of the said high-voltage transmission lines as determined by economic limits, will be Windsor in the west and Kingston in the east, the additional territories to be tapped by such extensions to be fully fed in turn by a continuance, where necessary, of the local low-voltage distributing lines. This will cover the whole of the south-western portion of Ontario from Kingston to Georgian Bay and south, leaving the north-eastern portion of Ontario from North Bay to the St. Lawrence river to be covered by a similar system which, in due time, will doubtless be established at the most appropriate generating points within the district.

The present arrangements of the Commission include the supplying of fifteen municipal corporations with their respective power needs up to an aggregate of approximately 27,000 H. P., over the lines described and now under construction, viz:—Toronto, 10,000; London, 5,000; Guelph, 2,500; St. Thomas, 1,500; Woodstock, 1,200; Galt, 1,200; Hamilton, 1,000; Stratford, 1,000; Berlin, 1,000; Waterloo, 685; Preston, 600; St. Marys, 500; Ingersoll, 500; Hespeler, 400; New Hamburg, 250.

Provision has been made for the supply of larger quantities, from time to time as they are required, and also, for the extension of the service to all the municipalities within the area which it is proposed to feed from Niagara Falls.

The municipalities have agreed to pay the Commission for the power in question on the following basis, viz.,—

- (1) The contract price of the Ontario Power Company at Niagara Falls, plus
- (2) 4% per annum upon that part of the construction cost which is properly applicable to each participating municipality, plus
- (3) An annual amount sufficient to create a sinking fund which in thirty years, shall completely pay for that portion of the construction cost which is applicable to each municipality, plus
- (4) That proportion of the line loss and the general operating and maintenance charges which is properly applicable to each municipality.

The annual inclusive rates, so computed, payable by each municipality, have been carefully estimated and reduced to the following H.P. scale viz.,—

Toronto.....	\$18.10	per H.P.	per annum
London.....	23.50	"	"
Guelph.....	24.00	"	"
St. Thomas.....	26.50	"	"
Woodstock.....	23.00	"	"
Galt.....	22.00	"	"
Stratford.....	24.50	"	"
Berlin.....	24.00	"	"
Hamilton.....	17.50	"	"
Waterloo.....	24.50	"	"
Preston.....	23.50	"	"
St. Marys.....	29.50	"	"
Hespeler.....	26.00	"	"
New Hamburg.....	29.50	"	"

These rates are for power delivered at the municipal sub-stations at 13,000 volts. Each municipality assumes the responsibility for acquiring or providing the necessary local distributing system, and the maximum cost to the consumer on the above consumption will be the above prices, plus the respective local distributing costs.

While the intricacies that enter into any comparison between the costs of hydro-electric and steam power of the varied character and on the scale dealt with herein, are such as to make those most familiar with the question particularly chary about instituting them, it would be a pity to leave this branch of my subject without endeavouring to state, in at least roughly approximate figures, the monetary value to the community of the savings effected thereby, as compared with a corresponding supply of electrical power derived from coal and steam plants located at the sites of the respective corresponding municipal sub-stations. While, therefore, I do not put forward the figures I am about to submit as an exact estimate of the difference, I do submit them as an approximate statement of the difference, and, therefore, of the economic value of the undertaking as limited to meet *only the stated needs* of the municipalities referred to. The exact quantity of power contracted for, amounts to 27,350 H. P. which, at the various rates given, averages, as nearly as possible, \$22.00 per H. P. per annum. This, you will bear in mind, is the cost of power available for continuous consumption during the whole round of 24 hours daily. Now if coal and steam plants were erected on the proposed sites of the various municipal sub-stations for

the purpose of developing the same quantities of electric power for a continuous 24 hour full load service, the average cost of such would amount to certainly not less than \$60.00 per H. P. per annum. (A monopoly would fix the price of electric power at just under the coal-steam cost, or whatever the traffic would bear). The difference is \$38.00 per H. P. per annum, which on a consumption of 27,350 H. P. amounts to \$1,039,300, or, say, \$1,000,000 per annum. As the consumption increases, the unit cost, of course, decreases with the effect of greatly swelling the unit and aggregate savings. The capitalized value at 5% of savings amounting to \$1,000,000 per annum is \$20,000,000. That is to say, that, if the consumers in question desired to exchange their annual savings of \$1,000,000 for a present single payment in hand, they would receive from anyone wishing to make a 5% investment therein the sum of \$20,000,000 for them.

The true economic value of these savings cannot however be calculated, because they will be employed from year to year in extending the trade, and in increasing the competitive efficiency of all engaged therein. The investment and reinvestment of such increasing income-bearing advantages cannot be stated in monetary terms. But it is obvious that, in these days of increasing international industrial competition, their value, when made available for the people of the whole Province, is of incalculable consequence; and the conception of which they are begotten is of corresponding dignity.

I should also note that, had this matter been left exclusively in the hands of private companies, their tendency would have been to get the easiest market for their output by inducing manufacturers to settle within easy distance of Niagara Falls, and by selling in large blocks to large users. Under the policy of the Commission, the benefits are being distributed throughout the Province to large and small users alike, thus contributing to a well balanced and general development, rather than an abnormal expansion of one district at the expense of others.

The progress of the work to date may be rapidly described. The sub-stations are all practically completed, so far, that is, as the buildings are concerned. Of the transmission line towers, about one-half are erected, and the balance will be erected within five or six months. The electrical equipment is under construction, and should be completed and installed within six months. Power service will be furnished each municipality in order of completion, and all should be supplied within six months. By these means, it will be possible to compare accurately the relative efficiency of each municipality and develop in the fullest degree the art of competitive efficiency. All the local municipal distributing plants are likewise under construction. Mr. R. A. Ross, of Montreal,

has acted throughout as the consulting engineer of the Commission, and it is only right that I should acknowledge in the most ample way the great value of his services.

Meetings of the municipal engineers concerned, have been held at frequent intervals during the past year, with the object of standardizing all possible features of the undertaking: e.g., the establishment of a uniform scale of power and lighting rates, subject only to different discounts to provide for differences in general conditions, is being aimed at, together with a uniform system of accounting and the standardization of the technical equipment of the municipal distributing systems.

I should also add that the total estimated cost of the finished project was \$3,500,000, and that the actual cost, as determined by the contracts let, comes well within that figure. From this, it follows that the estimated H.P. rates given the municipalities are safe and assured.

IV.—Effect Upon Vested Interests—I have already made passing reference in two or three places to the effect of the work of the Commission upon vested interests. I shall briefly summarize these and add one or two additional remarks.

At Port Arthur the Kaministiquia Power Company's interests have been distinctly steadied and improved by the mediation of the Commission between that Company and the municipality of Port Arthur. The same effect has been secured at Ottawa.

In the Niagara peninsula there are four Canadian companies, viz., Canadian Niagara Company, Ontario Power Company, Hamilton Cataract Company and the Electrical Development Company. The Canadian Niagara Company has not been affected at all by the work of the Commission. Its activities are entirely on the United States side of the river. The Ontario Power Company has been strengthened by the acquisition of a contract to supply the Commission with from 8,000 to 100,000 H. P. Its position has been distinctly and greatly improved by this contract. The contract was made at a low and very favourable rate for the Commission, but it constituted for the Ontario Power Company purely additional business, which enabled it to improve its position even by the acceptance of a low price. The Hamilton Cataract Company is still carrying on, as heretofore, a large and successful business.

The smoke of battle has gathered mostly over the head of the Electrical Development Company. It was offered—but it declined—the privilege of supplying the Commission with a part of its requirements. It remains in full possession of its Toronto line, its Toronto customers and its Toronto contracts, and it will, doubtless, sell at profit-

able rates, for all time, as much power as it can produce. All the talk of the injury inflicted upon this concern may be brought to a very simple test. Have its securities appreciated or depreciated in value? The lowest price of its bonds in 1907 was 72 and the highest, 84. In 1909 the lowest price rose to 82½ and the highest to 90½. If this Company had been injured in any degree by the Commission, the market prices of its bonds would have reflected the injury. On the contrary, they have steadily improved in value.

To sum up: The Commission is not engaged in the generation of power in competition with existing companies; it has violated no contract, nor has it employed coercion in its dealings with them; instead, it has strengthened several such by purchasing from them large quantities of power and establishing them on a firmer contract basis.

By the construction of its transmission lines, it proposes to distribute much of the power so purchased throughout parts of Ontario that no existing company is in a position to serve. The wreckage of vested interests with which—according to many newspapers—Ontario is covered, is not visible to any search party that I have been able to organize. As a matter of fact, while the public has already received great—and will yet receive greater—benefits from the work of the Commission, vested interests of private companies have been justly dealt with and have been greatly strengthened.

V.—The Probable Future of the Commission—If the construction project, now nearing completion, answers, as I have every confidence it will, the expectations formed of it, the future of the Commission will be devoted to the completion of the work begun. The Government is not a trustee for the interests of any particular group of municipalities or any particular part of the people to the exclusion of the rest. Its obligations are the same to all the people and to all their municipal institutions. In prosecuting this work, however, just as it will not be deterred by slander, neither will it be hurried by impatient clamour. It will proceed cautiously and prudently, step by step, testing and proving its way, that its progress may be real and enduring. An abundant supply of motive power is to the manufacturing arts what blood is to the human body. It is their very life. And upon the progress of the manufacturing arts depends the future of this country in the international markets of the world. Supremacy in these arts gives employment and prosperity to the people at home, influence and power to the country abroad, and, in combination with the unbounded granaries of the west, it assures to the Dominion a beneficent as well as an honour-

able place in the civilization of that, as yet unshaped, Imperial future to which we all look forward. Nor would I forget the patient toilers on the land. Back of, and sustaining, the manufacturing arts are the great agricultural classes, the keepers of the granaries of empire, the ultimate source and foundation of moral and political strength, as well as of material greatness.

To raise the standard of living, by multiplying and cheapening the comforts of life, for these great classes is one of the prime objects of the Commission. That it will ultimately be accomplished I have no doubt whatever. This is the task to which I have set my hand. This is the task to which I shall devote my public life. It is no ignoble work. I am not ashamed of it. I am well assured that the vilification of the present will give place to the vindication of the future. Its consummation will contribute to national strength and national greatness. I hope and believe that the work so initiated in my own Province will be carried forward by the National Commission in all departments of our national heritage.
